

CUSTOMIZING COWL CHASSIS DESIGN



Introduction:

Cowl chassis, primarily manufactured from steel, is considered to be the most crucial element that gives strength and stability to vehicles under different driving conditions. There is a huge demand for lighter and stronger chassis systems which will sail through all regulatory requirements of different geographies. There are on-going developments to introduce progressive features in cowl chassis systems which are key to boost automotive chassis systems market.

Digital innovation in automobiles is gradually mapping into the chassis market which is reshaping traditional auto industry structures.

A European truck maker wanted to introduce its international range of trucks to the Indian market. They wanted to re-design the cowl chassis for Indian driving conditions while maintaining their benchmark European Cab Chassis Standards in a short period of time.

The Customer:

One of the world's largest truck manufacturer based out of Europe.

Business Scenario:

Re-design and prototyping of a European product with a very short lead time. The final product has to be localized and customized to suit Indian drivers and driving conditions.

Solution:

Right from concept designing to prototyping – the process was divided into phases with constant gate reviews with the customer. We collaborated with the customer for benchmarking against the existing European model. We also studied the entire model and made a list of the parts that need to be retained, modified and removed or redesigned.

The entire engineering solution including design and prototype parts for the first proto build of the newly styled cowl was delivered within scheduled timelines. This re-designing replaced the existing tiltable cabin with cowl mounting brackets.



Design changes implemented:

- Shifting of Accelerator, Brake and Clutch pedal
- Seating arrangement modified based on ergonomics layout studies
- Outer rigger power steering system
- Rerouting of the gear shift and air intake after cooler system
- Front cross member and front bumper redesign
- Electrical wiring harness & Control system redesign
- Managed supply chain for manufacturing and delivering prototype parts which included casting & fabricated parts, rubber & plastic parts, pipes.

Key Benefits to Customer

- Our capabilities in embedded software and hardware development for Autosar compliant platforms helped them in faster regulatory approvals.
- Rapid Development of Simulators, Telematic Systems, and testing Equipment's helped them in their time to market.
- End to end design-thinking capabilities proved useful as the customer was able to build the demo vehicle much ahead of the scheduled demo launch.
- This also helped the customer to launch their vehicle for the Indian market much ahead of their competition – thus having the first mover's advantage.

Why AXISCADES

Why partner with AXISCADES?
Integrated solutions offering across design, manufacturing and supply chain. Efficient delivery process and quality procedures for regulatory and safety compliance.

Strong program management practices and capability in terms of technology and scalability.

Flexible engagement and cost models for offshore and onsite development. A reliable ecosystem for sourcing, prototyping, and manufacturing